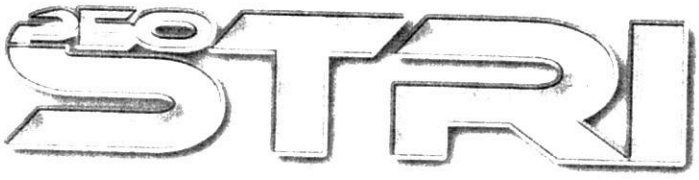
PEO-STRI-15-W097
4 April 2016
Revision 5

Statement of Work
for
Tactical Communication Subsystem
Technical Refresh of the
Joint Operations Center Element
at the Joint Readiness Training Center (JRTC)



U.S. Army Program Executive Office for
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Engineering

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REVISION AND CHANGE RECORD

REVISION HISTORY	DATE	Change	Originators
1	16 March	Updated Paragraph 3.2.3.i titled Provide a Back-Up Power Generator.	Kahl
		Updated Paragraph 3.1.5 – added :" to facilitate the Radio Frequency (RF) over fiber transmission"	Kahl
		Updated Paragraph 3.3.2 – change "full" to "final"	Kahl
		Updated Appendix C	Kahl
		Updated Paragraph 4.10 Operation and Maintenance Manual	Kahl/Doughtery
		Updated Paragraph 3.0 – added: "The contractor shall perform tasks to remove the exiting JOC Tower with Tactical Communication equipment located within the JRTC JOC Building 1560, install new replacement tower and equipment new the site of the new JOC building, and connect the new equipment back to Building 1560 through Building 7840 as defined herein	Kahl
		Added Paragraph 3.4.3. – added:" The contractor shall coordinate the filing of Notice of Proposed Effort (FAA Form 7460-1) for an Obstruction Evaluation. More information can be found at the following site: https://oeaaa.faa.gov/oeaaa/external/portal.jsp (DI-MISC-80711A) Scientific and Technical Reports	Kahl
		Modified Paragraph 3.1.1.1 – removed: "The contractor shall coordinate the filing of Notice of Proposed Effort (FAA Form 7460-1) for an Obstruction Evaluation. More information can be found at the following site: https://oeaaa.faa.gov/oeaaa/external/portal.jsp (DI-MISC-80711A) Scientific and Technical Reports"	Kahl
		Updated Paragraph 3.16 – Change to:" The contractor shall provide for an additional capability to handle 25% more equipment for potential future projects within the shelter."	Kahl
		Updated Paragraph 3.1.2 – Change to:" The contractor shall provide a means of support for tactical communication subsystem antennas that ensures a coverage radius of not less than 40 kilometers."	Kahl
		Added Paragraph 3.2.4 – Added:" 3.2.4. The contractor shall provide for an additional capability to handle 25% more cabling and antennas for potential future projects."	Kahl
2	5 April	Updated Paragraph 3.1.1 – Change to: The contractor shall provide the hardware/equipment and associated materials to support	Kahl

		the installation for the following tactical communication subsystem antennas. - 6 VHF FM SINCGARS capable antenna - 6 transmitters and receivers with amplifiers, combiners, and multiplexers (minimum of 24 radios for each multiplexer)	

Table of Contents

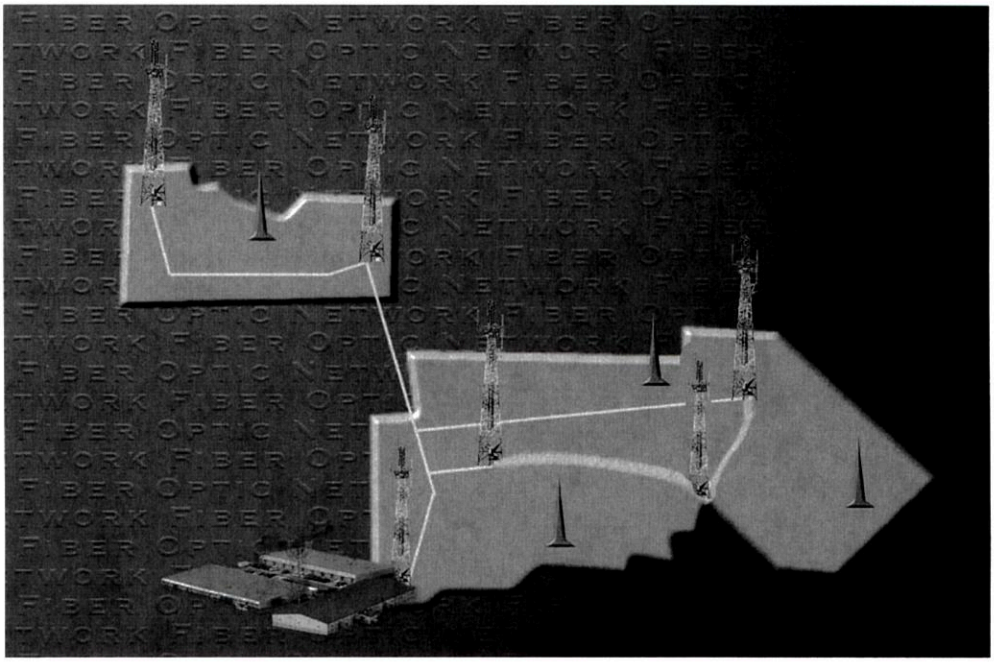
Statement of Work
for
Tactical Communication Subsystem
Technical Refresh of the
Joint Operations Center Element
at the Joint Readiness Training Center (JRTC)

1.0 SCOPE

This Statement of Work (SOW) defines the effort required for the Technical Refresh of the Tactical Communication Subsystem of the Joint Operation Center (JOC) Element at the Joint Readiness Training Center (JRTC), Fort Polk, Louisiana. The effort also requires the JOC element of the Tactical Communication Subsystem be relocated at North Fort Polk, near the site of the Fiscal Year 2021 New Joint Operations Center (JOC) Building.

1.1 BACKGROUND

Joint Readiness Training Center (JRTC) Tactical Communication Subsystem effort uses Commercial off the Shelf (COTS) Information Technology equipment to properly operate, display, and protect the JRTC Instrumented Systems (JRTC-IS) while supporting rotations. This tactical data communication is transmitted digitally throughout the training area, collected at six different locations and re-transmitted via the JRTC Tactical Network to the JRTC-IS application servers and data collection/storage components located in the JOC (Building 1560).



The JOC Element of the Tactical Communication Subsystem has been determined to unsuitable. The survey findings conducted by Civil And Structural Engineer (CASE) on Oct 2009 and confirmed by the US Army Corps of Engineers, Tulsa District in May of 2013 conclude that the 100' self-Supporting JOC Tower (an communication support element of the Tactical Communication Subsystem) near Building 1560 at Fort Polk, LA fails to meet the standards in accordance with Telecommunication Industry Association (TIA) 222-G (Structural Standard For Antenna Supporting Structures And Antennas) Structural standard.

2.0 APPLICABLE DOCUMENTS

The following documents of issue shown on the document summary list form a part of this SOW to the extent specified herein.

ACI 318	Building Code Requirements for Structural Concrete and Commentary (Can be procure from multiple vendors)
AISC-LFD	Load and Resistance Factor Design Specification for Structural Steel Buildings (Can be procure from multiple vendors)
ASTM A123	Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products for channel shapes (Can be procure from multiple vendors)
IEEE 142	Recommended Practice for Grounding of Industrial and Commercial Power Systems (Can be procure from multiple vendors)
FAA Advisory Circular AC 150/5345-43	Specification for Obstruction Lighting Equipment (Available on LT2 Portal Collaboration Site – JRTC T-Tower Replacement)
FAA Advisory Circular AC 70/7460-1	Obstruction Lighting Requirements (Available on LT2 Portal Collaboration Site – JRTC T-Tower Replacement)
GEIA-STD-0007	Logistics Product Data & Handbook (Can be procure from multiple vendors)

MIL-STD-130N	Identification Marking of U.S. Military Property (Available on the WWW at: http://quicksearch.dla.mil/qsText.aspx)
NFPA 780	Standard for the Installation of Lightning Protection Systems (Available on www.nfpa.org))
TIA-222-G	Structural Standard for Antenna Supporting Structures and Antennas (Can be procure from multiple vendors)
UFGS-09 97 13.25	Maintenance, Repair, and Coating of Tall Antenna Towers (Available on LT2 Portal Collaboration Site – JRTC T-Tower Replacement)
	Technical Guide for Installation Information Infrastructure Architecture (Available on LT2 Portal Collaboration Site – JRTC T-Tower Replacement)

3.0 REQUIREMENTS FOR TACTICAL COMMUNICATION SUBSYSTEM JOC ELEMENT

The contractor shall perform tasks to remove the exiting JOC Tower with Tactical Communication equipment located within the JRTC JOC Building 1560, install new replacement tower and equipment near the site of the new JOC building, and connect the new equipment back to Building 1560 through Building 7840 as defined herein. The contractor shall procure, implement, integrate, test, and document the components and architecture in accordance with requirements for the Technical Refresh of the Tactical communication Subsystem – JOC Element of this SOW. The contractor shall conduct work in accordance with Fort Polk requirements outlined in Appendix A. The new location of the JOC element of the Tactical Communication Subsystem information is provided in Appendix B.

3.1 TACTICAL COMMUNICATION SUBSYSTEM

3.1.1 The contractor shall provide the hardware/equipment and associated materials to support the installation for the following tactical communication subsystem antennas.

- 6 VHF FM SINCGARS capable antenna
    - 6 transmitters and receivers with amplifiers, combiners, and multiplexers (minimum of 24 radios for each multiplexer)
- 12 each UHF antennas and Radio frequency (RF) receivers
- 4 each VHF antennas and RF receivers

VHF FM SINCGARS	Model - RF-9072-AT001
UHF Antennas	Model - DC-2250
VHF Antennas	Model - DC-30

3.1.1.1 The contractor shall provide minimum coverage of 40 kilometer. The height shall take into account the aircraft restriction of Self Airfield air space and North Fort Water tower.

3.1.2 The contractor shall provide a means of support for tactical communication subsystem antennas that ensures a coverage radius of not less than 40 kilometers.

3.1.3 The contractor shall provide an environmentally controlled communication equipment shelter for all equipment provided.

3.1.4 The contractor shall provide cabling to feed all of the communication equipment on and to the new location. Provide a fiber access point between the new location and the fiber optic network (FON) ring through Building 7840. Provide a 96 strand of fiber from the tower to Building 7840 in accordance with Technical Guide for Installation Information Infrastructure Technical Guide I3A

3.1.5 The contractor shall provide the network infrastructure as needed to facilitate the Radio Frequency (RF) over fiber transmission of communications signals from/to Building 1560 to the new location. Provide the capability of an environmental control shelter for communication equipment. Provide access control configuration into the shelter.

3.1.6 The contractor shall provide for an additional capability to handle 25% more equipment for potential future projects within the shelter.

3.2 TACTICAL COMMUNICATION STRUCTURE SUBSYSTEM

3.2.1 The contractor shall provide the hardware/equipment and installation for the tactical communication structure subsystem to support the tactical communication subsystem. The design shall be in accordance with ACI 318 and AISC-LFD. The contractor shall conduct a sub-surface soil investigation/testing. The contractor shall submit a Soil Boring Report. (DI-MISC-80711A) Scientific and Technical Reports

3.2.2 The contractor shall provide a new self-supporting galvanized (no guy wires) structure and all mounts with structural components. The structure shall be considered a Class III as defined by TIA-222-G and the design shall include the use of UFGS 09 97 13.25 Part 2.

3.2.3. The design of the tactical communication structure subsystem shall:

a) Sustains environmental conditions of 95mph winds and 1 inch of ice as defined by EIA-222-G.

b) Provide appropriate climbing provisions as specified in ANSI/TIA-222-G complete with anchorages and platforms for regular periodic maintenance or trouble shooting of antenna systems.

c) Provide primary grounds for the structure. All electrically active equipment and appurtenances supported by the structure shall be connected to the structure by a secondary ground. Total resistance of the structure's connected primary grounds as referenced to remote earth shall not exceed 10 ohms. The total resistance shall be measured or calculated in accordance with the IEEE Standard 142.

d) Provide a lightning arresting system in accordance with NFPA 780: Standard for the Installation of Lightning Protection Systems.

e) Provide obstruction marking and/or lighting in accordance with Federal Communication Commission (FCC), Federal Aviation Authority (FAA) and/or local aviation authority requirements. Provide an FAA Advisory Circular AC 150/5345-43 compliant obstruction light system for night-time operation installed in accordance with Chapter 5 of FAA Advisory Circular AC 70/7460-1. If the tower is over 105ft, the tower must be painted in accordance with Chapter 5 of FAA Advisory Circular AC 70/7460-1 and ASTM A123 and A-153.

f) Provide all electrical infrastructure.

g) Provide a perimeter security fence around the tower with one key control entrance by means of an FE-6 Security Fence with the measurements and access capability within.

h) Provide a Transient Voltage Surge Suppressor (TVSS). The TVSS external module panel shall be installed at each electrical panel. The TVSS shall be sized to the amperage and/or voltage of each panel with require enclosure. The system shall be grounded, wired to the panel, and also connected to the grounding system.

i) Provide a Back-up Power Generator. When power fails or there is a loss of power, the back-up power generator system shall seamlessly convert to provide power for 48 hours of uninterrupted operations. The back-up generator shall use natural gas and coordinate with DPW for integration into existing infrastructure.

j) Provide an Uninterruptible Power Supply (UPS). The UPS system shall provide continuous power to all communication equipment during the time interval

between the loss of commercial power source, detection, and start of back-up generators. The UPS system shall also provide line surge and over voltage protection for all core equipment. The UPS shall provide full load operations for a minimum of 1 hours until equipment can be safely brought down or power restored. The UPS system shall be designed to provide sufficient capacity to power any alarms, modems, multi-coupler, amplifier, and/or other ancillary equipment for 1 hours, at a maximum design load plus twenty-five (25 %) future growth.

k) Provide an alarm/monitoring system (temperature, UPS/loss of power/shelter access at a minimum) with communication to Building 1560. The system shall be consistent with the existing system being procured by the JRTC Range Communication System (RCS) Effort.

3.2.4. The contractor shall provide for an additional capability to handle 25% more cabling and antennas for potential future projects.

3.3 DISPOSITION TACTICAL COMMUNICATION SUBSYSTEM

3.3.1 The contractor shall de-install the existing JOC Tactical Communication Subsystem back to the point of termination located in Building 1560. The de-installation shall take into consideration restoring the existing JOC Tactical Communication Subsystem back to natural conditions.

3.3.2 The contractor shall obtain Government disposition instructions for the replaced JOC Tactical Communication Subsystem. De-install will not start until final acceptance of the new JOC Tactical Communication Subsystem.

3.4 COORDINATION

3.4.1 The contractor shall coordinate with Fort Polk DPW and Fort Polk Airfield for flight obstruction clearance if needed during the installation of the new JOC Tactical Communication Subsystem and de-installation of the existing JOC Tactical Communication Subsystem.

3.4.2 The contractor shall coordinate with commercial on-post electrical provider during the new installation of the JOC Tactical Communication Subsystem.

3.4.3 The contractor shall coordinate the filing of Notice of Proposed Effort (FAA Form 7460-1) for an Obstruction Evaluation. More information can be found at the following site: https://oeaaa.faa.gov/oeaaa/external/portal.jsp

(DI-MISC-80711A) Scientific and Technical Reports

4.0 GENERAL REQUIREMENTS

4.1 PROGRAM MANAGEMENT

The contractor shall provide the overall management and administrative support to ensure that the requirements of the SOW are satisfied. The contractor shall define and monitor metrics and Technical Performance Measures (TPMs) to evaluate the performance of each critical technical and management process and conformance of the evolving products with contract requirements. The contractor shall provide documented program status and accomplishments, upcoming activities, identified issues and their resolution; a program integrated master schedule (IMS), and any other relevant items in periodic reports. The contractor shall implement, manage, update, and maintain the program in accordance with (IAW) the timelines defined in the IMS as approved by the Government. The IMS shall address total program activities including activities performed by subcontractors. The IMS shall identify critical path to be used to assess project progress, schedule risk and corrective actions required to mitigate risk. The IMS will be part of the Monthly Report.

(DI-MGMT-80227) Contractor's Progress, Status and Management Report

4.2 FINANCIAL MANAGEMENT

The contractor shall plan, budget, schedule, and control resources allocated to meet the requirements of the contract. The contractor shall document and track status of all appropriated funds associated with the contract to include payments, cancellations and invoices against each contract line item and sub-line item.

4.3 MEETINGS AND REVIEWS

The contractor shall plan, host and conduct meetings and reviews as defined herein. All meeting and technical reviews shall occur at a timeframe in the program recommended by the contractor and approved by the Government. The contractor shall document the results of the meetings/reviews, including any resulting action items and update briefing charts.

(DI-MISC-80711A) Scientific and Technical Reports
(DI-ADMN-81373) Presentation Material

4.3.1 Post Award Conference

A post award conference shall be held at JRTC within 10 days after contract award. The conference shall introduce key Integrated Product Team (IPT) participants with emphasis on top level management of the program, identify points of contact and discuss both parties understanding of the scope of work, agreement on metrics that shall be used as management indicators, identify the partnering approach, and other contract issues.

4.3.2 Prelimary Design Review (PDR)

The contractor shall conduct a PDR to demonstrate the technology/design of the JOC Tactical Communication Subsystem. The PDR shall be a formal technical review of the basic design approach. The PDR shall cover the progress and technical adequacy of the selected design approach. The PDR shall allow the Government to evaluate the technical risk associated with

the selected design approach. The PDR shall include an initial concept design, subsystem block and functional diagram, infrastructure connections, concept and theory of operation, design standards and drawings, and logistical considerations (including training and manuals). The PDR shall be conducted at JRTC Fort Polk, LA and shall be conducted 45 days after Post Award Conference.

4.3.3 65% and Final Design Reviews

The contractor shall plan and conduct a 65% and Final Design Review of the JOC Tactical Communication Subsystem. These design reviews shall cover the progress and technical adequacy of the selected design approach. The design reviews shall allow the Government to evaluate the drawings and technical risk associated with the selected design approach. These design reviews shall be conducted at JRTC Fort Polk, LA or teleconference with Government approval. The 65% Design Review shall be conducted 45 days after approval of the PDR. The Final Design Review shall be conducted 45 days after approval of the 65% Design Review.

4.4 TEST AND EVALUATION

The contractor shall plan, coordinate, establish and implement a test and evaluation effort of the JOC Tactical Communication Subsystem. The contractor shall prepare acceptance test plans for Government approval. The testing of the equipment at the JRTC cannot interfere with the training operations; therefore, the contractor shall work around the training rotation schedule. The contractor shall identify support resources and infrastructure necessary for test and evaluation activities. If the contractor requires Government support or assets for a test, the contractor shall submit a request for approval to the Government at least 120 days prior to the start of test. The contractor shall host a Test Readiness Review prior to the start of any Government-witnessed test.

(DI-NDTI-80566A) Test Plan
(DI-NDTI-80603A) Test Procedure
(DI-NDTI-80809B) Test/Inspection Report

4.4.1 Test Readiness Review (TRR)

The TRR shall occur before any Government witnessed testing begins, and shall normally last not more than one day. Prior to the start of test event, the contractor shall present evidence that documentation is complete, the system is ready, prior test(s) were successful or open issues have been addressed. There shall be reasonable confidence that the system to be tested can satisfactorily pass the test. This review shall determine what actions are required to ensure resources, training, and test hardware will be in place to support the successful conduct of the test, and to ensure that test, documentation, design maturity and configuration, and data systems has been adequately addressed. The contractor shall document action items and coordinate and track resolutions for each item until closure.

(DI-ADMN-81373) Presentation Material

4.5 JOC TACTICAL COMMUNICATION SUBSYSTEM ACCEPTANCE

JOC Tactical Communication Subsystem acceptance will not be provided until all terms of this

SOW are complied with. The contractor shall Schedule Final inspection providing a minimum of 2 weeks advanced notice for attendance by the Government and Fort Polk DPW.

4.6 FINAL ACCEPTANCE

Final acceptance will not be provided until completion of two rotations (without incidents) after Fort Polk DPW's approval of the JOC Tactical Communication Subsystem. Upon project acceptance, a DD1354, Transfer, and Acceptance of Military Real Property form, shall be filled out and submitted to the government with final documentation. Along with the DD1354, an Installed Equipment list must be provided for all equipment installed under this project.

(DI-MISC-80711A) Scientific and Technical Reports

4.7 PHYSICAL CONFIGURATION AUDIT

The contractor shall support the Government in conducting a Physical Configuration Audit (PCA) after end-to-end testing of any phased or final delivery of a system or subsystem.

4.8 PROJECT DRAWINGS

The contractor shall provide project drawings. The drawings shall consist of separate sheets to indicate specific aspects of the work including structural, civil, electrical, mechanical, plumbing, and any other sub-section of work requiring plans for proper implementation during the installation phase of the project.

(DI-MISC-80711A) Scientific and Technical Reports

4.9 SUPPORTABILITY ANALYSIS AND LOGISTICS MANAGEMENT INFORMATION

The contractor shall document system configuration using Logistics Product Data (LPD) and generate LPD summaries in accordance with GEIA-STD-0007. The LPD shall support resource requirements including required spares and support equipment. Using Source Maintenance and Recoverability (SM&R) Codes, the contractor shall develop a listing of which items should be repaired and which should be discarded. Warranty information will not be generated using GEIA-STD-0007.

(DI-SESS-81758A) Logistics Product Data
(DI-SESS-81759A) Logistics Product Data Summaries
(See Annex to Exhibit A) Tailored Logistics Product Data Attribute Selection Sheet

4.10 OPERATION AND MAINTENANCE MANUALS

The contractor shall provide each operation and maintenance task in detail and in logical, systematic steps for the work to be accomplished. The contractor shall provide Commercial off the Shelf (COTS) Operator and Maintenance Manuals that provide instructions suitable for use by the intended audience of the system. The Operator Manual shall also include operator maintenance tasks such as preventive maintenance checks and services, inspection, lubrication, adjustment, and operator level repair and replacement tasks as needed.

(DI-TMSS-80527C) Commercial Off The Shelf Manuals & Associated Supplemental Data

4.11 PARTS STANDARDIZATION

The contractor shall influence the system design to achieve maximum subsystem, component and repair parts commonality. The contractor shall minimize equipment and parts proliferation through a standardization effort. The standardization effort shall maximize the use of parts already in the inventory and where practical, use the same or updated part number. Refer to Appendix C, Standard Tower Site Hardware.

4.12 UNIQUE IDENTIFICATION (UID) OF TANGIBLE ITEMS

The contractor shall coordinate among the Government to determine items requiring unique identification including embedded subassemblies, components and parts, and identify the UID to be used for each item. The contractor shall provide unique item identification, or a Department of Defense (DoD) recognized unique identification equivalent, for all identified items delivered. UID marking design for each item shall be both machine readable and human readable in accordance with MIL-STD-130N, paragraph 5.2.

(NOTE: For more guidance, http://www.acq.osd.mil/dpap/pdi/uid/index.html and Defense Acquisition Guidebook, Chapter 4, systems engineering UID considerations.)

(DI-MGMT-81858) Unique Identification (IUID) Marking and Verification Report

4.13 TRAINING

The contractor shall define, develop, and conduct training for users/operators to understand the functional and operational capabilities. The contractor shall provide training and training system documents required to support configuration, and operation of tower, hardware and software (if applicable), system tools, techniques, methodologies, and for sustaining. The contractor shall use, to the maximum extent possible, all previously developed data that can be applied toward satisfying the training requirements. Maintenance training will not be required for standard parts. The training shall be conducted at Fort Polk, LA. The training shall be video recorded for reference.

(DI-MISC-80711) Scientific and Technical Reports

4.14 CONTRACTOR PERSONNEL REQUIREMENTS/ANTITERRORISM (AT)/OPERATIONS SECURITY (OPSEC)

4.14.1 AT Level 1 Training

All contractor employees, to include Subcontractor employees, requiring access Army installations, facilities and controlled access areas shall complete AT Level I awareness training in accordance with AR381-12 within thirty (30) calendar days after contract start date or effective date of incorporation of this requirement into the contract, whichever is applicable. The contractor shall submit certificates of completion for each affected contractor employee and Subcontractor employee, to the COR or to the contracting officer, if a COR is

not assigned, within thirty (30) calendar days after completion of training by all employees and Subcontractor personnel. AT level I awareness training is available at the following website: http://jko.jten.mil.

4.14.2 Access and General Protection Policy and Procedures for Contractor Requiring Common Access Card (CAC)

All contractor and all associated Subcontractors employees shall provide all information required for background checks to meet installation access requirements to be accomplished by installation Provost Marshal Office, Director of Emergency Services or Security Office. Contractor workforce must comply with all personal identity verification requirements (FAR clause 52.204-9, Personal Identity Verification of Contractor Personnel) as directed by DOD, HQDA and/or local policy. In addition to the changes otherwise authorized by the changes clause of this contract, should the Force Protection Condition at any individual facility or installation change, the Government may require changes in contractor security matters or processes.

Before CAC issuance, the contractor employee requires, at a minimum, a favorably adjudicated National Agency Check with Inquiries (NACI) or an equivalent or higher investigation in accordance with Army Directive 2014-05. The contractor employee will be issued a CAC only if duties involve one of the following: (1) Both physical access to a DOD facility and access, via logon, to DOD networks on-site or remotely; (2) Remote access, via logon, to a DOD network using DOD -approved remote access procedures; or (3) Physical access to multiple DOD facilities or multiple non- DOD federally controlled facilities on behalf of the DOD on a recurring basis for a period of 6 months or more. At the discretion of the sponsoring activity, an initial CAC may be issued based on a favorable review of the FBI fingerprint check and a successfully scheduled NACI at the Office of Personnel Management.

4.14.3 iWATCH Training

The contractor and all associated Subcontractors shall brief all employees on the local iWATCH program (training standards provided by the requiring activity AT Office). This local developed training will be used to inform employees of the types of behavior to watch for and instruct employees to report suspicious activity to the COR. This training shall be completed within 30 calendar days of contract award and within thirty (30) calendar days of new employees commencing performance with the results reported to the COR no later than sixty (60) calendar days after contract award.

4.14.4 OPSEC Program

The contractor shall develop an OPSEC Standing Operating Procedure (SOP)/Plan within 90 calendar days of contract award, to be reviewed and approved by the responsible Government OPSEC officer. This plan will include a process to identify critical information, where it is located, who is responsible for it, how to protect it and why it needs to be protected. The contractor shall implement OPSEC measures as ordered by the

commander. In addition, the contractor shall have an identified certified Level II OPSEC coordinator per AR 530-1.

4.14.5 Requirement for OPSEC Training

Per AR 530-1, Operations Security, contractor employees must complete Level I OPSEC training within thirty (30) calendar days of their reporting for duty. All contractor employees must complete annual OPSEC awareness training. The contractor shall ensure all applicable employees have completed OPSCE initial training and annual refresher training and shall certify that their work force has completed the training through the submission of completion certificates(s) to the COR within 30 30 days of arrival on the installation. OSPEC training can be accomplished at the Defense Security Services website at: http://cdsetrain.dtic.mil/opsec/idex.htm.

4.14.6 Threat Awareness Reporting Program (TARP)

For all contractors with security clearances, per AR 381-12 Threat Awareness and Reporting Program (TARP), contractor employees must receive annual TARP training by a counterintelligence agent or other trainer as specified in 2-4b.

4.15 CONTRACTOR MANPOWER REPORTING APPLICATION (CMRA)

The contractor shall report ALL contractor labor hours (including subcontractor labor hours) required for performance of services under this contract for the Tactical Tower Replacement program via a secure data collection site. The contractor is required to completely fill in all required data fields using the following web address: http://www.ecmra.mil/. Reporting inputs will be for labor executed during the period of performance during each Government Fiscal Year (FY) which runs October 1 through 30 September. While inputs may be reported any time during the FY, all data shall be reported no later than October 31 of each calendar year. Contractors can find User Guides, Frequently Asked Questions and may direct questions to the help desk at http://www.ecmra.mil/.

Appendix A - Fort Polk Requirements

1. General Statements:

1.1. Contractor shall comply with all local, state, and federal codes and all federal wage laws. This includes but not limited to NFPA, IBC, UFC, IPC, INEC, NEC, NESC, NFPA, LSSRB, MUTCD, OSHA, ASHRAE, TM 5-807-10, ANSI, ADA/ABA, Fort Polk Installation Design Guide (IDG), EM 385-1-1, and AR420-1. The latest version of all codes and standards shall be used as design guides as long as there are no conflicts with the requirements as stated in this document.

1.2. If digging, excavating, and/or drilling are required, the contractor shall apply and obtain a permit/utility outage request.

1.2.1. To initiate a dig permit, the Contractor shall proceed to Building 3307, DPW Work Reception, where the receptionist will initiate two service orders (exterior electric and natural gas).

1.2.2. The Contractor will then take the initiated dig permit with site drawings to Building 3305. This will begin the marking of the two utilities mentioned above.

1.2.3. The Contractor will still be responsible for contacting the remainder of the utility companies listed on the dig permit such as SRI, Louisiana One Call, etc.

1.2.4. Outages for power and natural gas must be coordinated through the Operations and Maintenance Division located at Building 3304 fourteen (14) days prior to the proposed work date or outage. All outages affecting domestic water shall require the submission and approval of the "American Water Application for Outage Form."

1.2.5. All new utility trenches shall be 24 inches deep unless otherwise specified. A plastic warning tape shall be placed in each new utility trench 12" below grade.

1.3. Water usage on Fort Polk;

1.3.1. Non-potable (other than potable). Contractors requiring water in the performance of their contract for other than potable use can fill their water tanks at the South Fort Water Plant located on Pennsylvania Avenue in Bldg 2902. Contractors are required to have an approved backflow prevention device to obtain water from the plant. To schedule a time to fill water tanks, call 337-531-2036 or 531-6596.

1.3.2. Potable. Contractors requiring water in the performance of their contract for potable use are authorized to use the installation two potable water points. The South Fort potable water point is located on Georgia Avenue in the 2900 block. The North Fort potable water point is located on K Avenue, south of Access Control Point Seven. Only containers properly marked "Potable Water" are authorized for use at Fort Polk's potable water points.

1.3.3. All connections to the Fort Polk water system shall be equipped with a back-flow prevention device. The device shall be furnished and installed by the Contractor.

This includes connection to fire hydrants, cooling tower make-up and closed loop piping fill. All such connections shall have an approved cut off valve. Back flow preventer shall be tested and certified to be in proper working order. Written certification documentation of the BFD shall be submitted to the associated DPW Project Manager prior to use.

1.4. Utility meter requirements;

1.4.1. Domestic water, gas, and electricity shall utilize advance digital utility meters and be physically accessible by DPW and/or a privatized utilities visual reading inspector.

1.4.2. Meters shall be provided and installed by the contractor as part of this effort. Provide meters equivalent to:

1.4.2.1. Electrical; Shark 200 (ENCSHK200-?-60-10-V2-D2-INP100S-X), prewired in a NEMA12 indoor rated enclosure with Modbus protocol and Ethernet interface

1.4.2.2. Natural Gas; Sonix 880

1.4.2.3. Water; Neptune E-Coder R900 or greater as specified by American Water standards.

1.4.3. Each meter shall be wired in appropriate conduit. The natural gas (Sonix 880) and/or water meter (Neptune E-Coder R900) shall be connected to the Shark 200 electrical meter. The electrical meter cannot be placed outdoors or anywhere the face of the meter is exposed to the elements and shall be connected to a data port located within the telecommunication closet for future connectivity to an enterprise-wide energy monitoring system.

1.4.4. For each meter location, provide horizontal Category 6 or current NEC standard cabling from patch panel termination in the telecommunications room to the data outlet termination IAW TIA/EIA-568-C.1. The linear footage between the TR and the outlet should not exceed 250 feet. Terminate, label and test category 6 horizontal cable IAW Technical Criteria for Installation Information Infrastructure Architecture (TC-I3A), latest edition. Ground as required per TC-I3A.

1.4.5. The data outlet termination shall be weatherproofed to allow weatherproof connection of a data patch cable between the data outlet and meter.

1.4.6. Meters shall be placed into operation as soon as possible to monitor and ensure proper operation; they shall be safeguarded to ensure they remain free of damage. This is not an effort to charge contractor but data is to be reported to the Utility Management team, BOID, DPW.

1.5. All work in regard to electrical systems shall be done in accordance with Entergy's standard procedures as stated in the current Fort Polk Installation Design Guide, National Electrical Code and NESC requirements. EMT conduits, if applicable, shall require

compression type connectors and couplings. PVC conduit shall not be used above grade unless specifically required by the contract.

1.6. All work concerning communication systems shall be done in accordance with Installation Information Infrastructure Technical Guide I3A, Network Enterprise Center (NEC) and EIA/TIA 568A standard procedures.

1.7. All work in regard to water and wastewater systems shall be done in accordance with the current edition of American Water Military Services Group's "Design Guide for Water and Wastewater Facilities" (dated 20 July 2009) and appendices. PVC water pipes are being used above grade inside existing fenced cooling tower enclosure. Any new use of PVC pipe as part of this project will require written DPW approval. American Water and DPW must approve all new connections before acceptance.

1.8. The contractor shall provide, if applicable, a storm water pollution prevention drainage plan must be filed. Report is to be filed with Environmental and Section 6 - Appendix X, Para X16.

1.9. As part of this installation's Net Zero Initiative, and the solid waste management plan, all demolition and waste materials that may be generated as a result of project activities shall be assessed during the IPR/Charrettes and/or design reviews for their recyclable value and acceptance into the JRTC & Fort Polk Qualified Recycling Program (QRP).

1.9.1. Prior to commencement and during project activities, the contractor shall communicate and coordinate with the QRP to determine the current commodities, operating times, and delivery schedules for materials that are to be processed through the QRP.

1.9.2. The QA/QC will ensure that all QRP-accepted materials are diverted and delivered to the QRP. A monthly report shall be submitted by the contractor through the QA/QC to the installation solid waste manager for those recyclable materials processed through the QRP.

1.9.3. All other **solid** waste materials generated by the contractor shall be disposed of off Fort Polk at a state permitted waste disposal site unless otherwise approved.

1.10. No materials containing asbestos shall be used on this project. No lead based paint shall be used on this project. The contractor shall submit a statement certifying that all the materials used are asbestos and lead free. Any asbestos containing material identified by the REC and encompassed within this contract shall be abated, unless otherwise indicated to be encapsulated.

1.11. The contractor shall have approved toilet and hand washing facilities.

1.11.1. Specifications of toilet and hand washing facilities shall be in accordance with EM 385-1-1. The contractor shall provide protection measures between the work area and the adjacent interior spaces of the facility that is a part of this project.

1.11.2. These protection measures include but are not limited to;

1.11.2.1. Separation barriers at all openings between the work area and the adjacent interior spaces

1.11.2.2. Use of an ASHRAE approved filter, Minimum Efficiency Reporting Value (MERV) 13 or equal, at all return air grilles including ceiling, wall, and door returns

1.11.2.3. Use air scrubber equipment within the work area, these measures are necessary to protect occupants and visitors with allergy or respiratory issues from the effects of on-going work efforts.

1.12. The contractor shall comply with U.S. Army Corps of Engineers Safety and Health Requirements Manual, EM 385-1-1, and Part 1910, Title 29, Code of Federal Regulations (29 CFR 1910) and Part 1926, Title 29, Code of Federal Regulations (29 CFR 1926) that establish legal requirements for all safety aspects of the job, Title 32 CFR 655. 10; Oversight of radiations sources brought on army land by non-army entities.

1.12.1. The contractor shall disseminate all applicable safety requirements to its subcontractors and/or lessees.

1.12.2. Job sites will be marked IAW applicable regulations

1.12.3. Any hot work, to include hot tar kettles and equivalent, will require a daily hot work permit. These are obtained between 0730 and 1600 at Fire Station 3 (Bldg 4256) located at Polk Army Airfield.

1.13. Work (see below for exceptions) shall generally be performed during normal business working hours of 7:30 am(0730hrs) to 4:30 pm(1630hrs), Monday through Friday, except as otherwise indicated. Deviations may be requested through the Contracting Officer/Specialist.

1.14. The contractor shall comply with all environmental requirements that pertain to this project and as described in Section 5 - Attachment X: Environmental Specifications for Contracts.

2. Location of Work:

2.1. *Use of Premises:* Limit use of premises to work in areas necessary to complete the work. Do not disturb portions of the project site beyond area in which the work is indicated. The Contractor shall obtain approval from the Contracting Officer for locating temporary office spaces and material storage yards. Keep driveways, loading areas, and entrances serving premises clear and available for ordinary and emergency vehicles at all times. Do not use these areas for parking or storage of materials. Schedule deliveries to

minimize the use of driveways and entrances. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

2.2. Areas with increased risk of injury by falling objects, uneven walking surfaces, tripping hazards, electrical shock or other work shall be fenced off and display warning to restrict personnel and vehicle access to the work site.

2.2.1. All materials shall be installed and equipment used in accordance with manufacturer's recommendations and accomplished by workers skilled in this type of work using standard trade practices. The Contractor shall comply with all local, state, and federal codes, and all federal wage laws.

2.2.2. The contractor is to protect all utilities in the work area during excavation and installation to include but not limited to communications, electricity, water, storm, sewer, irrigation, and control wiring. Any damage to utilities will be repaired at the contractor's expense.

2.2.3. Mobilization, staging, and demobilization of materials, moving equipment, tools, and man-power required for execution of work detailed shall be by contractor. Safety requirements, rental expenses, and licensing are a burdened cost and shall be estimated, tracked, and recorded as such.

2.3. *EXISTING CONDITIONS:* Site surveys, abatement, remediation, geotechnical reports, etc…

2.3.1. Standard Requirements:

2.3.1.1. Abatement will be required in removal of any contaminated paint, sealants from flooring, plumbing connections, around flashing, exterior penetrations, and some piping insulation; refer to DPW Record of Environmental Consideration for sample points and descriptions. The contractor shall review and coordinate all abatement/remediation issues with the Fort Polk Environmental division of DPW that may surface with this project.

2.3.1.2. The contractor shall have the damaged building materials removed by a trained and licensed remediation professional to avoid contaminating the rest of the building.

2.3.1.3. The contractor shall identify areas of the site which may be impacted by extent of new work including grading, drainage, and landscaping. The contractor shall document the pre-work site conditions with photographs and take the necessary measures to preserve them.

2.3.1.4. The Contractor shall take the necessary measures to ensure building/site access security.

2.3.1.5. The Contractor shall control housekeeping, personnel access, and exposure to safety risks--including overhead work, uneven walkways, tripping hazards, noise, dust, and possible mold and asbestos contamination in Work areas

during the period of the effort, sweeping and cleaning of debris generated daily by the work, and a final, thorough cleaning at completion.

2.3.1.6. The contractor shall take necessary precautions not to damage water, electrical, communication, natural gas, and sewer lines in the area. Do not interrupt utilities serving occupied facilities unless permitted under the following conditions and then only after arranging to provide temporary utility services according to the requirements indicated. Utility interruptions of occupied facilities will be allowed only during off-hour and, if work is required, the Contractor shall arrange for security with the Government during the off-hours work. The Contractor shall: (1) notify the Government not less than two weeks in advance of proposed utility interruptions; and (2) not proceed with utility interruptions without the Government's written permission.

2.3.1.7. The contractor shall remove and properly dispose of all waste materials related to this project off post.

3. **Site Maintenance:** The contractor shall take necessary measures to control erosion of existing disturbed areas. When the work effort is complete, the contractor shall sod or hydro-mulch any disturbed areas, also plan for areas between sidewalk and building at a minimum per footprint.

3.1. The contractor will be responsible for any water damage on the interior of the building that is a part of this project once operations commence.

3.2. The contractor will be responsible for daily housekeeping, scheduling, and quality of work.

3.3. The contractor will be responsible for project safety plans and supervision.

3.4. Utilities locate all existing utilities and protect during the work effort. (includes Gas, sewer, electrical, water, and communications) NOTE: Utilities shown on DPW utility maps may not reflect a live "in-service" line that is suitable for connection.

4. **Final Clean-up / Project Acceptance:**

4.1. Site Clean-up: At completion of project, the time between pre-final inspection and final inspection.

4.1.1. Contractor shall clean each area to make sure all debris is removed

4.1.2. All exterior areas around the complex are free of debris, materials, and damage caused by contractor.

5. **Attachment X:**

ENVIRONMENTAL SPECIFICATIONS FOR CONTRACTS

X. Contractors performing activities on Fort Polk shall comply with the following applicable requirements:

X1. Comply with all applicable federal, state, and local environmental laws, statutes, regulations, executive orders, permits, Army regulations (with supplements), and JRTC

and Fort Polk Regulations. Immediately report any conflicts between applicable federal, state, local environmental laws, statutes, executive orders, provisions of Army Regulation 200-1, JRTC and Fort Polk Regulation 200-1 and any specifications within this contract to the COR and the Directorate of Public Works, Environmental and Natural Resources Management Division (DPW-ENRMD).

X2. Comply with all Federal Acquisition Regulation provisions and/or clauses 52.223-3 Hazardous Material Identification and Material Safety Data; 52.223-5 Pollution Prevention and Right-to-Know Information; 52.223-7 Notice of Radioactive Materials; 52.223-9 Estimate of Percentage of Recovered Material Content for EPA Designated Products; 52.223-10 Waste Reduction Program; 2.223-11 Ozone-Depleting Substances; and 52.223-14 Toxic Chemical Release Reporting.

X3. Follow Federal EPA Comprehensive Procurement guidelines (www.epa.gov/cpg) for acquisition of building materials and products and select materials that have a long life cycle; the least toxic materials; recyclable materials; materials that are resource-efficient; materials with the maximum recycled content; materials harvested on a sustained yield basis; and products causing the least pollution during their manufacture, use and reuse.

X4. Obtain all licenses, and certifications required by federal, state, and local environmental laws and regulations necessary to adhere to the specifications of this contract. The Contractor shall submit all plans, notifications, reports, submittal documents and fees required by federal, state, and local environmental laws and regulations to the appropriate federal, state, and local authority and/or agency as necessary to adhere to the specification of this contract.

X5. Notify immediately DPW-ENRMD and COR of the arrival on site of any federal, state, and/or DoD environmental regulator or enforcement agent and/or the receipt of any correspondence from a federal or state environmental agency.

X6. Submit to potential federal, state, Army and installation work site environmental regulatory inspections and/or investigations into non-compliances, and fully cooperate with such inspections/investigations by providing the appropriate records and documentation. Environmental regulatory agencies are authorized by law to inspect any work site for environmental compliance with regulatory requirements. If an inspection is conducted, it will not stop or disrupt ongoing contract activities. The inspection will only require the work site environmental officer, or supervisor/manager to answer questions and/or escort the inspector to specific work site areas with the potential to affect environmental quality. Typical environmental work site inspects are conducted in less that 15 minutes with an approximate frequency of one inspection every two months.

X7. Report immediately any nonconformance and/or noncompliance with applicable federal, state or local environmental laws, Army and installation environmental regulations to the COR and DPW-ENRMD.

X8. Obtain from the COR and/or DPW-ENRMD, a copy of the installation's completed National Environmental Policy Act (NEPA) analysis and associated decision document (Environmental Impact Statement (EIS) and Record of Decision (ROD); Environmental Assessment (EA) and Finding of No Significant Impact (FNSI); or Record of Environmental Consideration (REC)) on the proposed contract actions prior to commencement of such actions.

X9. Contractors shall take the necessary actions to identify, monitor, and control those operations and activities that pose risk of contamination, or can negatively impact the natural and/or human environment in accordance Fort Polk's ISO 14001 Environmental Management System procedures.

X10. Designate the appropriate number of personnel to perform Environmental Compliance Officer (ECO) functions in accordance with the requirements of AR 200-1 and JRTC & Fort Polk Regulation 200-1 for all contract work periods exceeding 180 consecutive days. Contractors will designate a primary and alternate ECO for each shop or work area that uses and/or stores hazardous materials and/or generates hazardous wastes. An ECO is an individual from the Contractor's staff appointed to ensure that environmental requirements are met. Work areas will have at least one ECO on duty at all times. Within 15 days of start of contract performance, each designated ECO and alternate must successfully complete the 40-hour ECO course provided on post by DPW-ENRMD. In addition, each ECO must successfully complete an 8-hour annual refresher. Annual re-certification (e.g., refresher training) must be completed within each anniversary of the 40-hour ECO course. Failure to meet this requirement will necessitate re-taking the 40-hour course. The positions of ECO are not full time positions. Individuals so designated may perform other duties provided they are available to perform ECO duties when required. Contractors using and/or storing very small quantities of hazardous materials may request a wavier of this requirement through the COR to DPW-ENRMD.

X11. Contractor shall not allow personnel to perform any activities and/or tasks on Fort Polk without proper and adequate qualifications or job competency training. In the event of any identified noncompliance, the Contractor shall, if requested, provide proof of contract personnel training or qualification (individual name, training/qualification type, training/qualification certificate, and date of training/qualification) to perform those contract activities associated with the identified noncompliance.

X12. Submit in writing the quantity, type, and location of Ozone Depleting Compounds used on the installation quarterly and within 48 hours prior to the expiration of the contract to the DPW-ENRMD. The Contractor shall submit within 10 working days of completing any work on equipment containing more than 50 pounds of refrigerant

charge: the building location, name, model, serial number and capacity of the unit; the amount of refrigerant removed and replaced; description of work performed and results of the subsequent verification testing to the DPW-ENRMD and COR. The Contractor shall complete and submit an Emissions Inventory Questionnaire in accordance with JRTC and Fort Polk Regulation 200-1, Appendix G, to the DPW-ENRMD for actions that modify or add an air emission source on the installation prior to adding or altering any emissions source.

X13. Remove from the installation and dispose of all solid waste generated, which cannot be recycled to an approved and permitted off-post disposal facility. Contractors shall make every effort to divert 50% of all debris waste and 40% of all other solid waste to comply with the Army Integrated Solid Waste Management Policy. Prior to removing any waste from Fort Polk for disposal, the Contractor shall coordinate with the installation Qualified Recycling Program (QRP) Manager and DPW-ENRMD to arrange for recyclable materials to be removed and diverted from the waste stream and provided to the installation to receive credit towards meeting diversion requirements. Submit in writing the quantities of waste removed and recycled to the DPW-ENRMD Solid Waste Manager on a monthly basis and at the expiration of the contract. The submittal shall include the date of disposal/recycling, the disposal/recycling facility, the types of material disposed/recycled and the quantities of materials disposed/recycled by weight. The Contractor shall establish a program to promote cost-effective waste reduction in all operations and facilities covered by the contract. This includes collection, separation, and processing products or other materials recovered from solid waste streams for use in the form of raw materials. The Contractor shall make maximum effort to reduce and prevent waste and comply with Executive Order 13423.

X14. Properly profile all waste generated as part of this contract to determine if any waste is hazardous waste as defined by 40 CFR. Contractor shall accumulate hazardous waste prior to disposal shipment in a satellite accumulation point at or near the point of generation or in a less than 90-day site, in accordance with federal, state, Army, and installation regulations. The Contractor shall properly package the hazardous waste and complete the hazardous waste manifest, then take the manifest to DPW-ENRMD for approval and signature prior to removing any hazardous waste from the installation. Contractors shall contact DPW-ENRMD to obtain the installation's hazardous waste EPA ID number for the hazardous waste manifest. The Contractor shall notify DPW-ENRMD 24 hours prior to removing any hazardous waste from the installation. The contractor shall remove and dispose of manifested hazardous waste generated by contract activities from the installation, to an approved off-post permitted hazardous waste disposal facility. The DPW-ENRMD shall assistance contractors with profiling their waste upon request.

X15. Submit a hazardous material inventory list for all contract work periods exceeding 180 consecutive days. The inventory list will contain the hazardous material type and maximum quantities of materials on hand utilizing Fort Polk Form 156 and submitted within 30 days of worksite establishment. The hazardous material will be properly

identified and include any applicable identification number, such as National Stock Number or Special Item Number. The Contractor shall maintain copies of Material Safety Data Sheets (MSDS) for all hazardous materials used and stored on site during performance of the contract. Contractor shall not supply or deliver any hazardous materials or chemicals to Fort Polk that is listed on the EPA toxic chemical list (see JRTC and Fort Polk Regulation 200-1) without prior written approval from DPW-ENRMD.

X16. The Contractor shall prepare and implement a site-specific Storm Water Pollution Prevention Plan (SWPPP) in accordance with the Louisiana Pollution Discharge Elimination System (LPDES) general storm water permits for small (1-4.9 acres) and large (5 acres and larger) activities (totals are cumulative across all portions of the project). The Contractor shall prepare the SWPPP prior to any soil disturbance and make the SWPP available upon request. The Contractor shall monitor activities to prevent pollution of surface and ground waters as identified in the site specific SWPPP. The Contractor shall maintain and make available upon request all SWPPP inspection records. For activities 5 acres and larger, Contractors shall prepare and submit a Notice of Intent (NOI), and a Notice of Termination (NOT) to LDEQ and present the NOI and NOT to installation personnel upon request. For activities 1-4.9 acres, Contractors shall prepare and submit a Notice of Completion (NOC) to LDEQ and present the NOC to installation personnel upon request. The Contractor shall not apply any toxic or hazardous chemicals and pesticides to soil or vegetation without prior DPW-ENRMD approval. The Contractor shall comply with state and installation storm water requirements and protect all water bodies and/or tributaries potentially affected by Contractor activities. For activities immediately adjacent to impaired surface water bodies, the Contractor shall quantify sediment or pollutant loading when requested by Federal, State, or installation personnel. The list of installation impaired surface waters bodies is available at the DPW-ENRMD.

X17. Provide erosion and sediment control measures in accordance with federal, state, Army, and installation laws and regulations when required. The erosion and sediment controls selected and maintained by the Contractor shall ensure that water quality standards are not violated because of ongoing activities. The Contractor shall construct or install temporary and permanent erosion and sediment control measures as required. The Contractor shall use Best Management Practices (BMPs) for storm water pollution prevention measures in accordance with the Louisiana Pollutant Discharge Elimination System (LPDES) General Permit. Any temporary measures will be removed after final stabilization and project acceptance by the COR.

X18. Submit the type and quantity of regulated pesticides, herbicides, or fungicides to be applied, the application purpose and location to the DPW-ENRMD and COR for approval 10 working days prior to the initial application. The Contractor shall submit the actual quantities applied to the DPW-ENRMD and COR within 2 working days (48 hours) after each approved application. The Contractor shall utilize Integrated Pest Management (IPM) technology and procedures in strict compliance with all applicable

federal, state, Army, and installation regulations, to include Fort Polk's Pest Management Plan. Pesticide applicators shall be certified, licensed and maintained in accordance with the State of Louisiana and/or Department of Defense regulations. The Contractor shall provide evidence of personnel licenses and certification to the Contracting Officer and the DPW-ENRMD prior to the initial application of pesticides, herbicides, or fungicides. Only those pesticides registered with the U.S. EPA and approved by the Command Consultant at the Army Environmental Center (AEC) and the DPW-ENRMD shall be utilized and then only in strict accordance with product labeling. The installation reserves the right to prohibit and limit the amount and type of pesticides used.

X19. Contractors shall only drill and/or install boreholes and/or wells in accordance with the Louisiana Department of Transportation and Development (DOTD) regulations. Contractors shall meet the well drilling licensing requirements as defined in the DOTD regulations. Contractor shall provide to DPW-ENRMD a copy of the Well Registration Short Form (DOTD-GW-1S0), drilling plan, GPS coordinates, and site description for the borehole and/or well. Contractor shall only use the additive bentonite to assist with the drilling process without DPW-ENRMD approval. Contractors shall notify DPW-ENRMD 24 hours prior to plugging and abandoning any well and/or borehole, and provide a copy of the Well Plugging and Abandonment Form (DOTD-GW-2) upon completion.

X20. Confine all activities to areas defined by the drawings and specifications. Prior to the beginning of any work, the Contractor shall identify any land resources to be preserved within the work area. Except in areas indicated on the drawings or specified to be cleared, the Contractor shall not remove, cut, deface, injure, or destroy land resources including trees, shrubs, vines, grasses, topsoil, and landforms. The Contractor shall provide effective protection for land and vegetative resources at all times. Prior to site clearing and grubbing, the Contractor shall coordinate harvesting of saleable timber with the DPW-ENRMD. Contractor shall notify the DPW-ENRMD if any trees are required to be disposed or removed. The Contractor is not authorized to remove or dispose of any tree greater than 6 inches in diameter unless permission has been granted in writing by the DPW-ENRMD.

X21. Develop, maintain, and post at the worksite a written site specific Spill Response Plan if transporting, processing, storing, or in any way managing hazardous waste, hazardous material, Petroleum-Oils-Lubricants (POL), or other restricted items. In case of a spill, the person in control of the spill site or their designated representative shall take appropriate action to protect workers and bystanders; contain the spill (if it can be done safely); secure the spill site; restrict ignition sources; and immediately contact the installation Fire and Emergency Services (Fire Department) for assistance (911 or 531-2026). Contractors storing 1,320 gallons or more of any oil-based product in an aboveground storage tank at the work site shall develop a Spill Prevention Control Countermeasure (SPCC) Plan and present such plan to the DPW-ENRMD prior to placement. Immediately respond to actual emergencies and accidents, prevent or

mitigate associated adverse environmental impacts, and contact the installation Fire and Emergencies Services at 911.

X22. Submit AAC-2 and Lead Paint Notification (LPN) environmental notification forms to the DPW-ENRMD for review prior to submission to the Louisiana Department of Environmental Quality (LDEQ) when performing demolition and/or renovation activities, and/or abating asbestos or lead-based paint. The contractor must allow enough time for a review by the DPW-ENRMD and notification to the LDEQ 10 working days prior to the project start date. The Contractor shall assume that materials on Fort Polk contain asbestos and/or Lead Based Paint (LBP) unless otherwise documented. The Contractor shall notify the State of Louisiana of asbestos and LBP abatement. In the notification, the Contractor shall describe procedures to be used to prevent the release of asbestos and lead contaminants into the work area and the environment. Air monitoring is required for all abatement projects as specified in the Fort Polk Asbestos & Lead-Based Paint Management Plans. A government representative must sign all waste manifests. The Contractor shall be responsible for ensuring his/her employees and Subcontractors are adequately trained and qualified for the classification of work they are performing (29 CFR 1926.62 and 1926.1101). The Contractor's on-site manager shall be trained and qualified as a "Competent Person" (29 CFR 1926.1101) capable of identifying Asbestos or LBP hazards in workplaces, capable of selecting the appropriate control strategy, and having the authority to take prompt corrective measures.

X23. Contractor shall not provide asbestos-containing materials or products, or paint with a lead content higher than 0.06% by weight, to the installation without written approval of the DPW-ENRMD. Contractors must provide a certificate to the COR at the conclusion of the contract verifying that contract materials and products used are asbestos free. Common asbestos-containing materials include, but are not limited to adhesives, mastics, sheetrock muds, and vinyl and tile flooring. Contractors installing new thermal system insulation must identify the new insulation with a blue band or cap at the locations where the new insulation begins and ends, and stencil "Non ACM" or "Asbestos Free" on the new insulation.

X24. Comply with all installation designated sensitive and/or off-limit area restrictions. Sensitive areas are marked with orange carsonite signs with reflective stickers indicating what activities (e.g., driving, digging, foot traffic) are prohibited. These stakes are placed on the boundary of the sensitive area. The stakes will show one or a combination of symbols. The Contractor shall also adhere to the following installation sensitive areas requirements:

X24.1. **Cultural Resources Sites**: Do not excavate, remove, damage, or otherwise deface any archeological resource located on public lands.

X24.2 **Endangered Species Habitats**: Do not initiate any action that may disturb, endanger, or damage to any degree the habitat of a Red-Cockaded Woodpecker (RCW)

or cavity tree. Individual RCW cavity trees are marked with two 6" white bands at eye level and a 200-ft buffer zone extends around each RCW cavity tree.

X24.3 **Wetlands:** Do not excavate or take any action that could fill or damage any wetland unless working under a project specific Corps of Engineers 404 permit. Wetlands include streams, riparian areas, bogs, marshes, and swamps.

X25. Contractor shall when given a verbal and/or written notice of environmental noncompliance or nonconformance by the COR, take immediate corrective action. Failure or refusal to comply promptly may be grounds for the Contracting Officer to invoke the appropriate contractual remedies. This may cause all or part of the work to be stopped immediately until satisfactory corrective action has been taken.

X26. Contact the Fort Polk Directorate of Public Works, Environmental and Natural Resources Management Division (DPW-ENRMD) at 531-6008/7008 or visit Building 2516 located at the intersection of Mississippi Avenue and 23rd Street for assistance. The environmental staff is available during non-duty hours and non-emergencies through the installation Field Officer of the Day (FOD) at 531-1726. For environmental emergencies, contact the installation Fire Department at 911.

6. Reference Criteria:

The references listed below form a part of the standard required criteria by the Government, but are not all inclusive or directly applicable to this contract. It is the responsibility of the contractor to assure that all applicable criteria is considered in the proposal submitted to the government and incorporated into the approved workplan. All requirements of the JRTC & Fort Polk & Installation Design Guide shall be complied within the workplan and during the effort. Work shall be in accordance with this criteria and shall be the basis of inspection and acceptance in the field by the Government. Unless otherwise noted, the latest edition for all reference standards or criteria listed shall apply; current editions of codes and requirements in affect 30 days prior to dated receipt of contractor's proposal/bid. Any associated amendments to these standards are applicable as well.

Minimum Required Criteria:

American Concrete Institute (ACI) 318, Building Code Requirements for Structural Concrete

American Institute of Steel Construction (AISC)

AISC-LRFD, Load and Resistance Factor Design Specification for Structural Steel Buildings

AISC 303, Code of Standard Practice for Steel Buildings and Bridges
AISC 325, Steel Construction Manual
AISC 360, Specification for Structural Steel Buildings

American National Standards Institute (ANSI)

ANSI C2, National Electrical Safety Code
ANSI C84.1, Electric Power Systems and Equipment - Voltage Ratings
ANSI/IEEE Std. 242, Recommended Practice for Protection and Coordination of Industrial and Commercial Power Systems. (The Buff book)

American Society of Civil Engineers (ASCE) 7, Minimum Design Loads for Buildings and other Structures

American Welding Society (AWS)
AWS D1.1/D1.1M, Structural Welding Code – Steel
AWS D1.3/1.3M, Structural Welding Code – Sheet Steel

Institute of Electrical and Electronics Engineers (IEEE)
IEEE Std. 142, Recommended Practice for Grounding of Industrial and Commercial Power Systems - IEEE (Green Book)
IEEE Std. 493, Recommended Practice for the Design of Reliable Industrial and Commercial Power Systems-IEEE (Gold Book)
IEEE Std. 519, Recommended Practices and Requirements for Harmonic Control in Electrical Power Systems-Second Printing
IEEE Std. 1100, Recommended Practice for Powering and Grounding Electronic Equipment-IEEE (Emerald Book)

International Building Code (IBC), 2012 Edition

International Standards Organization (ISO)

National Association of Corrosion Engineers (NACE) RPO 169- Control of External Corrosion on Underground or Submerged Metallic Piping Systems

National Fire Protection Association (NFPA)
NFPA 70, National Electrical Code
NFPA 70E, Standard for Electrical Safety in the Workplace
NFPA 101, Life Safety Code, 12th Edition

Telecommunication Industry Association (TIA): TIA-222-G (including all addendums), Structural Standard for Antenna Supporting Structures and Antennas

Underwriters Laboratories (UL) 50 – Enclosures for Electrical Equipment

State/Local Environmental Control Requirements

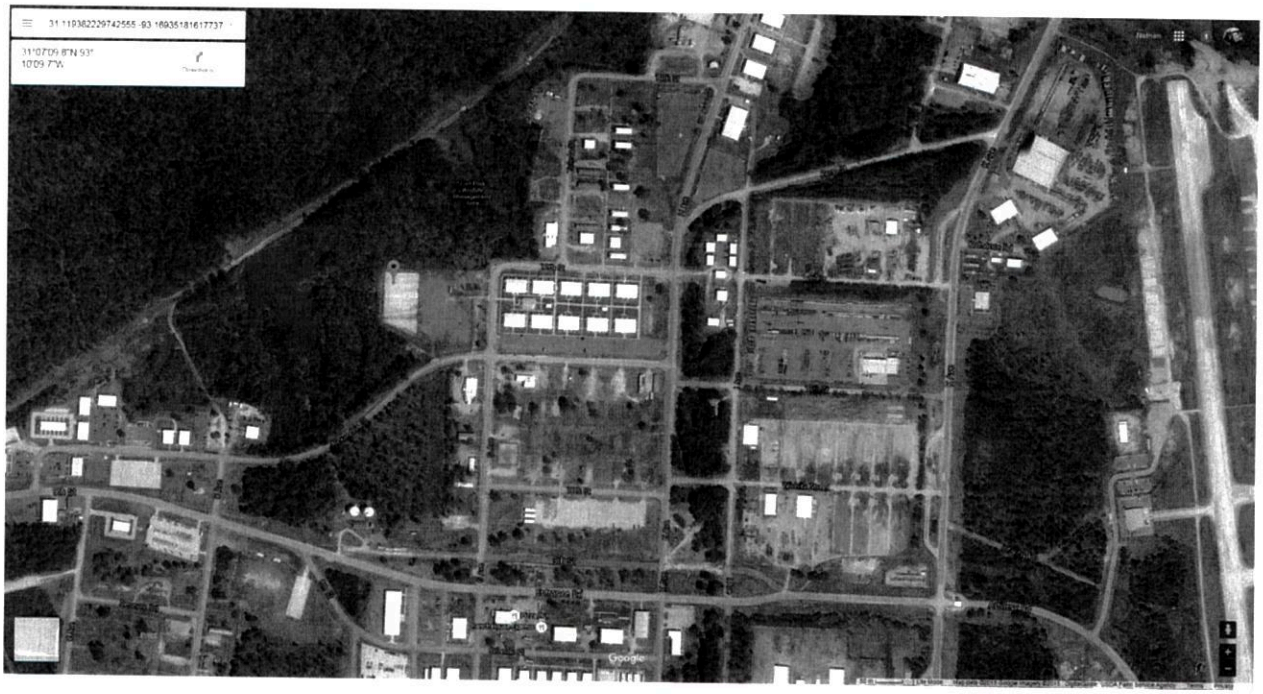
Louisiana Department of Environmental Quality

All Federal Aviation Administration Guidance

Army Requirements (AR)

AR 200-1 – Environmental Protection and Enhancement
JRTC and Fort Polk Reg. 200-1 – Environmental Protection and Enhancement
JRTC & FORT POLK Installation Design Guide
EM 385-1-1 (USACE) – Health and Safety Manual

Appendix B – New Location



Decimal Degrees (DD)

Latitude 31.119382229742555

Longitude -93.16935181617737

Degrees, minutes, Secondes (DMS)

Latitude North 31-7-9.776

Longitude West 93-10-9.666

Appendix C – Standard Tower Site Hardware

1. Tower Shelter Standard Parts List:

Description	Part Number	Model Number
CATALYST 4500E 48 PORT UPOE 10/100/1000(RJ45) CISCO	WS-X4748-UPOE+E	WS-X4748-UPOE+E
Power Supply, Catalyst 4500 4200W AC dual input power supply (Data + PoE)	PWR-C45-4200ACV	PWR-C45-4200ACV
CATALYST 4500E SERIES SUPERVISOR, 848GBPS CISCO	WS-X45-SUP7-E/2	WS-X45-SUP7-E/2
CATALYST 4500E 24 PORT GE(SFP) CISCO	WS-X4624-SFP-E	WS-X4624-SFP-E
ROUTER, 24 PORT, EMI-10/100	WS-C3560-24TS-E	WS-C3560-24TS-E
SWITCH, CISCO 2960, CISCO	MASA-NCU3H	2960
FIBER OPTIC PANEL	CPH-072	CPH-072
FIBER OPTIC PATCH PANEL	4-27006-0650	4-27006-0650
ROUTER, 24 PORT, EMI-10/100	WS-2900-24TS-E	WS-C2900-24TS-E
MANAGED ETHERNET DEMARCATION GATEWAY	SAS-110-TMC-254-DC	TMC-254- DC
MOBILE, M7100-IP, 378-430 MHz, 50W	MAHG-SNMXX	MAHG-SNMXX
TRANSMITTER/RECEIVER 378-430 MHz	SXNPTX	SXNPTX
TRANSMITTER, NETWORK PELCO	NET350T	NET350T
TRANSMIT COMBINER, 406-450 MHZ	DB4383-4-A	73-56-11-2D-05
TRANSMIT COMBINER, 406-450 MHZ	DB4383-4-A	21-56A-11-2D-T
TRANSMIT COMBINER, 406-450 MHZ	DB4383-4-A	73-56-11-2D-10
TX/RX MULTICOUPLER	42-57-01-24N	42-57-01-24N
32 PT. TRANSMITTER & CONTROL PT. MODULE	A18-04686-07	A18-04686-07
AMPLIFIER, TX POWER, 378-450 MHZ, 100W MII	EA101292V21	EA101292V21
BRANDYWINE FREQ STANDARD QFS-106	SXMD6G	QFS-106
ASSY UNITRACK MT RELAY (TX/RX ICE)	ICE10000010797B-01	ICE10000010797B-01
COUNTER, LIGHTENING STRIKE	LCS2000	LCM8-20
FOX 2R	ACX041G2	ACX041G2
ASSEMBLY, DATA DISTRIBUTION	134901-1	57039-134901-1
LIGHT DISTRIBUTION SHELF	LST1U-072/7	LST1U-072/7
POWER DISTRIBUTION UNIT/CONTROLLER, MODEL Z-LINE	TPC-12-A-RCB	TPC-12-A-RCB
MULTIPLEXER, T1 TERMINAL	TDM-163	TDM-163

CABINET, TRANSCEIVER ASSEMBLY	5000-2000-003	57039-134510-1
HAND HELD OPERATOR TERMINAL	HHT-01-RAD	HHT-01-RAD
SITEPRO CONTROLLER	CB101073V1 REV 4A	CB101073V1
REAL TIME DISTRIBUTION ENCODER	EDJE-2100	EDJE-2100
IDS, SOURCEFIRE 3D500, HARRIS	VSCN07	PTSOMCSA1-1
AMPLIFIER, TX POWER 378-450MHz, 100W, MIII	EA-101292-021	10MW
SPLITTER, TOWER, ANTENNA CONTROL	TELEBYTE 290	TELEBYTE 290
ANTENNA, 2', 7/8 GHz VHLP Antenna, Single Polarization	VHLP2-7W-RC1A	VHLP2-7W-RC1A
CONTROLLER, PAN/TILT, Marine QuickSet QPT-90	7-71RFB-18G-MWS	QPT-90
RADIO, IP, OUTDOOR UNIT	C0H-080360-10111-E100	E100
RADIO, IP, INDOOR UNIT	SDI-CNG4A1AG001	SDI-CNG4A1AG001
Antenna Position System Processor, SAS	APS-R01	APS-R01
AMP CARD, HIGH POWERED, TECORE	G3L-1839-120	G3L-1839-120
GSM BSS CABINET,SRC	BTS4000XE-BPU-CHASSIS	BTS4000XE
MODEM, 9600 BAUD SYS. MANAGER	19A149786P2	V.32
POWER MONITOR UNIT	19C336861P1	19C336861P1
CABINET ASS'Y, SITE CONTROLLER	19D903702	19D903702
COMPUTER, SITE CONTROLLER	19A149302P5	19A149302P5
COMPUTER, RUG BSI	IND-MONITOR	BSI 4036996
FUSE PANEL, 20 CIRCUIT	HMW 16100-225	HMW 16100-225
RECTIFIER 48VDC FUSE PANELS	HM1I-AUN-VV	HM1I-AUN-VV
PANEL, FUSE	111-2750-00	111-2750-00
PANEL, FUSE	19D902703G	19D902703G
TWR-STROBE LIGHT CONTROL	E-IBD	E-IBD
Toshiba 1600 Series, 18 KVA Single-Phase UPS	UE3G2L180C61TMB	UE3G2L180C61TMB
ROUTER, CISCO 2911 W/AC PWR & SEC BUNDLE, HARRIS	CM-027501-401	2911
AIR CONDITIONER	7473A897	7473A897
AIR CONDITIONER, 5 TON WALL HUNG BARD	W60A1-A05	W60A1-A05
AIR CONDITIONING UNIT, SUN	V60B10A1FDPF-NF	V60B10A1FDPF-NF
AIR CONDITIONER, 5 TON 10KW HEAT, BARDS	W60A2-A10	W60A2-A10
AIR CONDITIONER	50JS-048-6	50JS-048
AIR CONDITIONER	50JS-048-6	AV60H100CF
POWER SUPPLY	30308-102 POWER SUPPLY	30308-102

POWER SUPPLY (ACOPIAN)	9E13	9E13
DC POWER SUPPLY	72-2085	72-2085
POWER SUPPLY, RTS	0101-0006	0101-0006
POWER SUPPLY 28 VOLT	LSRM-25A	LSRM-25A
POWER SUPPLY 28 VOLT	LSRM-25M	LSRM-25M
UPS THREE STAGE	UE31-BC-1825	UE31-BC-1825
POWER SUPPLY, ERICSSON	19AR49978P1	19AR49978P1
POWER SUPPLY, 48 VOLT	A36F-10-48V	A36F-10-48V
UPS, 18KVA SINGLE BUS 240V	UE3G2L180C61T	UE3G2L180C61T
UPS, GXT3 3000VA, OL, 120V, RACK TWR, LIEBERT	GXT3-3000RT120	GXT3-3000RT120
UPS APC MODEL 500	BK500MC	BK500MC
CABINET ASS'Y, MULTIPLEXER	19D903947	19D903947
CABINET ASS'Y, FIBER OPTIC	19B802197	19B802197
GENERATOR 80 KW 120/240 VAC	DGCG-5779147	DGCG-5779147
Site Boss, Asentria	S550	550
MiniProx 5365, HID Global	5365	5365
Temp Sensor, Asentria Corp	ESJ-TA50	ESJ-TA50
Temp/Humidity Sensor, Asentria Corp	ESJ-TH8	ESJ-TH8
TVSS square D brand Surgelgoic external module, Schneider Electric		

2. Site Boss Indentured Parts List (JRTC RCS Tower Effort):

CAGE	OEM	Reference Number	PCCN	PLISN	LCN	Indenture	Item Name	QPA
90794	ASENTRIA CORPORATION	550	RCS001	A192	D0010010200	F	SITE BOSS	1
		164363	RCS001	A200	D001002	D		1
		164530	RCS001	A201	D00100200	E	SITE LAYOUT	3
			RCS001	A202	D0010020000	F	SHELTER	1
52359	BARD MANUFACTURING	W24A2-A05XP4XXJ	RCS001	A203	D001002000000	G	AIR CONDITIONER	2
4WPJ1	BARD MANUFACTURING	MC4000-BC	RCS001	A204	D001002000001	G	CONTROLLER	1
75582	LEVITON MANUFACTURING	52120-M3	RCS001	A205	D001002000002	G	SURGE PROTECTOR	1
TBDXX		P1C30BL070CTS	RCS001	A206	D001002000003	G	PANEL BREAKER	1
16543	LITHONIA LIGHTING	LB-2-32-MVOLT-GEB101S	RCS001	A207	D001002000004	G	LIGHT FIXTURE	1
TBDXX		F32T8/741/ECOMAX	RCS001	A208	D001002000005	G	LAMPS	8
TBDXX		P1430FX200CTSI	RCS001	A209	D001002000006	G	PANEL BREAKER	1
90794	ASENTRIA CORPORATION	0661-201	RCS001	A210	D001002000007	G	DISCONNECT BLOCK	1
90794	ASENTRIA CORPORATION	0661-098	RCS001	A211	D001002000008	G	DISCONNECT BLOCK	1
3FHA8	CHATSWORTH PRODUCTS	66383-103	RCS001	A212	D001002000009	G	EQUIPMENT RACK	2
TBDXX		sb1712TG/B89537	RCS001	A213	D001002000010	G	CABLE RACK	1

90794	ASENTRIA CORPORATION	ESJ-TH8	RCS001	A214	D001002000011	G	TEMP/HUMIDITY SNSR	1
TBDXX		9120 TF	RCS001	A215	D001002000012	G	SMOKE DETECTOR	1
TBDXX		6210	RCS001	A217	D001002000014	G	ELECTRIC STRIKE	1
TBDXX		2507AD	RCS001	A218	D001002000015	G	MAGNETIC CONTACT	1
TBDXX		UMI 45DB-MKO	RCS001	A219	D001002000016	G	SWITCH BOX	1
TBDXX		DB350S with MX1050W	RCS001	A220	D001002000017	G	GFI RECEPTACLE	1
75582	LEVITON MANUFACTURING	CR020-W	RCS001	A221	D001002000018	G	DUPLEX OUTLETS	4
TBDXX		UGBKIT-0420	RCS001	A222	D001002000019	G	GROUND BAR, COPPER	3
TBDXX		2.5X2.5X5	RCS001	A224	D001002000021	G	ENVRIO BLOCK	2
TBDXX		2.5X2.5X2.5	RCS001	A225	D001002000022	G	ENVRIO BLOCK	80
	CISCO	A901-6CZ-F-D	RCS001	A227	D001002000024	G	ROUTER	1
	CISCO	A901Z-RCKMNT-23IN	RCS001	A228	D001002000025	G	ROUTER MOUNT	1
61092	CORNING OPTICAL COMMUNICATIONS	CCH-02U	RCS001	A229	D001002000026	G	FIBER PANEL RCK MNT	1
61092	CORNING OPTICAL COMMUNICATIONS	CCH-CS12-59-P00R E	RCS001	A230	D001002000027	G	SPLICE CASSETTE	1

90794	ASENTRIA CORPORATION	ESJ-TA50	RCS001	A231	D001002000028	G	TEMP SENSOR	1
1SGK1	HID GLOBAL	MiniProx 5365	RCS001	A240	D001002000037	G	CARD READER ,WIEGAND	1

3. JRTC RSC Tower Shelter Standard Parts List:

Description	Part Number
MONITOR, SITE REMOTE, ASENTRIA S550	S550-6/32M/DC-64C-4C1R1W-4VP5-20S25-4E
DC POWER SYSTEM NETSURE, EMERSON	Custom
CONVERTER, 48VDC TO 240VDC, SD25C25, MEAN WELL	SD-25C-24
RACK, BATTERY SPILL CONT 27"X27" HAWK, ENVIROGUARD	Hawk-27-27
BLANK, PDU, TRIMM	9000200001
BREAKER, PDU, 20A, TRIMM	030017760E
BREAKER, PDU, 50A. TRIMM	030001777601
BREAKER, PDU,, 0.5A, TRIMM	03000177750A
TERMINAL BLOCK, COVER, MEAN WELL	TBC-07
FILLER PANEL, BLANK, 3RU, MIDDLE ATLANTIC PRODUCTS	EBS-23
RACK, EQUIPMENT 23"W X 84"H	
TELCO BOARD, 4" X 8", CELLXION	350060
HVAC, SLEEVE 8"X20"X6", CELLXION	522001-00014
HVAC, SLEEVE 11 ¾"X20"X6"", CELLXION	522001-00015
BOX, JUNCT 4"X4", STEEL CITY	521711234E
BOX, 6X6X4, SCREW COVER, NEMA 1.0, HOFFMAN	ASE6x6x4NK
BOX, JUNCT 2X4, LEGRAND	WPB23
BOX, JUNCT 2"X4", STEEL CITY	103-W-1/2
BOX, JUNCT OCT 4"RND 2-1/8 DEEP, STEEL CITY	54171
LOAD CENTER, SQD, 200A,30P, SQUARE D	Q0130M200
DISCONNECT, SQD, 200A, FUSED, 0224NRB, SQUARE D	0224NRB
SWITCH, ATS, KOHLER, 2P, 200A, KCS-AFNA, KOHLER	KCS-AFNA-02005

SURGE ARRESTOR, AC DATA, B82XRR	
CONTROLLER, LEAD LAG, BARD, MC4000-AC, BARD	MC4000-AC
THERMOSTAT, HI/LOW TEMP, 1UHH2, DAYTON	1UHH2
LIGHT FIXTURE, 70W, EXTERIOR, WALL, WP, LUMAPRO	5MM59
LIGHT FIXTURE, 32W, 2 BULD, 4FT, WR,T-8, TEXAS FLUORESCENTS	207A232-MVC-D
DETECTOR, SMOKE, 120V ION, KIDDE/FYRN, KIDDE	1235E
RELAY, SMOKE DET, 120V, KIDDE, SM120X, KIDDE	SM120X
BREAKER, SQD, 2P 30A, PLUG IN, Q0230, SQUARE D	Q0230
BREAKER, SQD, 2P 60A, PLUG IN, Q0260, SQUARE D	QO260
BREAKER, SQD, 2P 20A, PLUG IN, Q0220, SQUARE D	Q0220
BREAKER, SQD, 1P 20A, PLUG IN, Q0120, SQUARE D	Q0120
BREAKER, SQD, 1P 15A, PLUG IN, Q0115, SQUARE D	Q0115
BREAKER, SQD, 2P 15A, PLUG IN, Q0215, SQUARE D	Q0215
FUSE, HOLDER, IN-LINE, HLR2, BUSSMANN	HLR-2A
RECEPTACLE, GFCI, 120V,20A, NEMA5, COOPER	VGF20V
RECEPTACLE, DUPLEX, 125V, 20A, COOPER	CR20V
LOAD CENTER, SOD, COVER, SQUARE D	Q0C30US
FUSE, 200AMP, LITTLEFUSE	FLNR200ID
RECEPTACLE, SINGLE 30A, 250V, TWISTLOC, HUBBEL	HBL2620
TIMER, 6HR, SPR WOUND, SPST, FF6H, INTERMATIC	
ALARM, MAGNETIC DOOR CONTRACT, HONEYWELL	7939WG-2GY
G-BAR, SQUARE D, PK23GTA, SQUARE D	PK23GTA
G-BAR, KIT, SQUARE D, PTOGTA-6	PTOGTA-6
C-TAP, ORANGE, 54740, PANDUIT	CTAPF1/0-12TP-L
C-TAP, PINK, 54730, PANDUIT	CTAPF2-12TP-C
SABRE GRAY/BLUE SERIAL NO PLATE, CELLXION	480005
CABLE LADDER 12"X9'81/2" YELLOW, CENTRAL STEEL FABRICATORS	10012ZY
CABLE LADDER 12" CLOSSING BAR, Y/Z, CENTRAL STEEL FABRICATORS	ET112YZ
G-BAR ASSY, 54-245-01 KIT & HARDWARE, CELLXION	P540245-01
DOOR STRIKE, 24V ELEC, YON DUPRIN 611, VON DUPRIN	6111-FSE-24-US32D
DOOR CANPOY, 48" MOUNTING BRACKET, CELLXION	570005

DRIP CAP 42"X3", CELLXION	146514-006
HVAC WALL, 2T, 5KW, BARD	W24A2-A05XPXXXJ
EXTINGUISHER, 10#, CO2 FIRE, BADGER	390001
EYE WASH STN, FENDALL PORTA STREAM 2, FENDELL	32-000200-0000
DOOR CANOPY, 54" METAL, CELLXION	570018
G-BAR ASSY, 540245-01, KIT & HARDWARE, CELLXION	P54-245-01
Controller Unit, FAA Lighting (120VAC, 60Hz)	FLC 3611-5
KCS-AFNC-0200S (ATS, MPAC 1200, NEMA1), Kohler	ATS1200
Converter, Modbus to Ethernet, Kohler	GM41143-KP2
Surge Protector – 120/240V split phase, Kohler	GM89934-KA2
Chicago Alarm/Preferred Source, Kohler	GM40808-KA1
S550 with 6 Expansion, Asentria	S550-6/32M/DC-64C-4C1R1W-4VP5-4E-2DS2S
Rack-Mount Bracket Kit, A71 1U17- 23" Rack, Asentria	5006-020
Cable, SCSI to Dual Amphenol 25ft, Asentria	2060-405
66 Block, Dual ,Male Amphenol, Asentria	0661-200
RJ45 Splitter for Temp Sensors	4162-011
Indoor Temp/Humidity Sensor, Asentria	ESJ-TH8
Outdoor Temp Sensor, Asentria	ESJ-TA50
12" Hall Effect Sensor for R3D Dials, Asentria	5005-066
Door Swipe RFID, ESW-RFID1, Asentria	5002-041
HID 1326 ProxCard II Clamshell Card, Asentria	5006-052
48VDC -24VDC Converter, Mean Well	SD-25C-24
Terminal Cover, Mean Well	TBC-07
Blank Panel -13", Black Flanged, Mid-Atlantic	EB3-23
Shelf, Emerson	Netsure502
Controller, Emerson	Netsure502
Rectifier, Emerson	Netsure502
Distribution Shelf, Emerson	Netsure502
Spill Containment, Battery (27"Lx27"W), Envirograd	Hawk-27-27
Eritech System 3000 Dynashphere Enhanced Terminal with Rounded Tip, Erico	Dynasphere
Eritech Downconductor (1-7/16" OD), Erico	DOWNCONDUCTOR
Eritch Upper Termination kit, Erico	UPPER TERMINATION

Mast – Fiberglass Reinforced Plastic, Erico	FRP-4.6M
Light, Beacon – Red, SPX	
Mount, Beacon Light, Sabre	
Light Obstruction – Red, SPX	
Mount, Obstruction Light, SPX	
Conductor, FAA Lighting, SPX	
Junction Box, FAA Lighting, SPX	